

**Anti-TLR4 Antibody**  
Catalog # ABO10803**Specification**

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**Anti-TLR4 Antibody - Product Information**

Application	WB, IHC
Primary Accession	<a href="#">O00206</a>
Host	Rabbit
Reactivity	Human
Clonality	Polyclonal
Format	Lyophilized

**Description**

Rabbit IgG polyclonal antibody for Toll-like receptor 4(TLR4) detection. Tested with WB, IHC-P in Human.

**Reconstitution**

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

**Anti-TLR4 Antibody - Additional Information**

**Gene ID** 7099

**Other Names**

Toll-like receptor 4, hToll, CD284, TLR4

**Calculated MW**

95680 MW KDa

**Application Details**

Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, By Heat<br>Western blot, 0.1-0.5 µg/ml, Human<br>

**Subcellular Localization**

Cell membrane; Single-pass type I membrane protein. Upon complex formation with CD36 and TLR6, internalized through dynamin-dependent endocytosis. .

**Tissue Specificity**

Highly expressed in placenta, spleen and peripheral blood leukocytes. Detected in monocytes, macrophages, dendritic cells and several types of T-cells.

**Protein Name**

Toll-like receptor 4

**Contents**

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na<sub>2</sub>HPO<sub>4</sub>, 0.05mg Thimerosal, 0.05mg NaN<sub>3</sub>.

**Immunogen**

A synthetic peptide corresponding to a sequence at the N-terminus of human TLR4(50-68aa DNLPFSTKNLDSLFSNPLRH).

### Purification

Immunogen affinity purified.

### Cross Reactivity

No cross reactivity with other proteins

### Storage

**At -20°C for one year. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for a longer time. Avoid repeated freezing and thawing.**

### Sequence Similarities

Belongs to the Toll-like receptor family.

## Anti-TLR4 Antibody - Protein Information

### Name TLR4

### Function

Transmembrane receptor that functions as a pattern recognition receptor recognizing pathogen- and damage-associated molecular patterns (PAMPs and DAMPs) to induce innate immune responses via downstream signaling pathways (PubMed: [10835634](http://www.uniprot.org/citations/10835634), PubMed: [15809303](http://www.uniprot.org/citations/15809303), PubMed: [16622205](http://www.uniprot.org/citations/16622205), PubMed: [17292937](http://www.uniprot.org/citations/17292937), PubMed: [17478729](http://www.uniprot.org/citations/17478729), PubMed: [20037584](http://www.uniprot.org/citations/20037584), PubMed: [20711192](http://www.uniprot.org/citations/20711192), PubMed: [23880187](http://www.uniprot.org/citations/23880187), PubMed: [27022195](http://www.uniprot.org/citations/27022195), PubMed: [29038465](http://www.uniprot.org/citations/29038465)). At the plasma membrane, cooperates with LY96 to mediate the innate immune response to bacterial lipopolysaccharide (LPS) (PubMed: [27022195](http://www.uniprot.org/citations/27022195)). Also involved in LPS-independent inflammatory responses triggered by free fatty acids, such as palmitate, and Ni(2+) (PubMed: [20711192](http://www.uniprot.org/citations/20711192)). Mechanistically, acts via MYD88, TIRAP and TRAF6, leading to NF-kappa-B activation, cytokine secretion and the inflammatory response (PubMed: [10835634](http://www.uniprot.org/citations/10835634), PubMed: [21393102](http://www.uniprot.org/citations/21393102), PubMed: [27022195](http://www.uniprot.org/citations/27022195), PubMed: [36945827](http://www.uniprot.org/citations/36945827), PubMed: [9237759](http://www.uniprot.org/citations/9237759)). Alternatively, CD14-mediated TLR4 internalization via endocytosis is associated with the initiation of a MYD88-independent signaling via the TICAM1-TBK1-IRF3 axis leading to type I interferon production (PubMed: [14517278](http://www.uniprot.org/citations/14517278)). In addition to the secretion of proinflammatory cytokines, initiates the activation of NLRP3 inflammasome and formation of a positive feedback loop between autophagy and NF-kappa-B signaling cascade (PubMed: [32894580](http://www.uniprot.org/citations/32894580)). In complex with TLR6, promotes inflammation in monocytes/macrophages by associating with TLR6 and the receptor CD86 (PubMed: [23880187](http://www.uniprot.org/citations/23880187)). Upon ligand binding, such as oxLDL or amyloid-beta 42, the TLR4:TLR6 complex is internalized and triggers inflammatory response, leading to NF-

kappa-B-dependent production of CXCL1, CXCL2 and CCL9 cytokines, via MYD88 signaling pathway, and CCL5 cytokine, via TICAM1 signaling pathway (PubMed:<a href="http://www.uniprot.org/citations/23880187" target="\_blank">23880187</a>). In myeloid dendritic cells, vesicular stomatitis virus glycoprotein G but not LPS promotes the activation of IRF7, leading to type I IFN production in a CD14-dependent manner (PubMed:<a href="http://www.uniprot.org/citations/15265881" target="\_blank">15265881</a>, PubMed:<a href="http://www.uniprot.org/citations/23880187" target="\_blank">23880187</a>). Required for the migration- promoting effects of ZG16B/PAUF on pancreatic cancer cells.

#### Cellular Location

Cell membrane; Single-pass type I membrane protein. Early endosome. Cell projection, ruffle {ECO:0000250|UniProtKB:Q9QUK6}. Note=Upon complex formation with CD36 and TLR6, internalized through dynamin-dependent endocytosis (PubMed:20037584). Colocalizes with RFTN1 at cell membrane and then together with RFTN1 moves to endosomes, upon lipopolysaccharide stimulation. Co-localizes with ZG16B/PAUF at the cell membrane of pancreatic cancer cells (PubMed:36232715)

#### Tissue Location

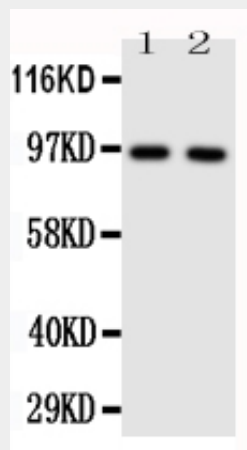
Highly expressed in placenta, spleen and peripheral blood leukocytes (PubMed:9237759, PubMed:9435236). Detected in monocytes, macrophages, dendritic cells and several types of T-cells (PubMed:27022195, PubMed:9237759). Expressed in pancreatic cancer cells but not in normal pancreatic cells (at protein level) (PubMed:36232715).

#### Anti-TLR4 Antibody - Protocols

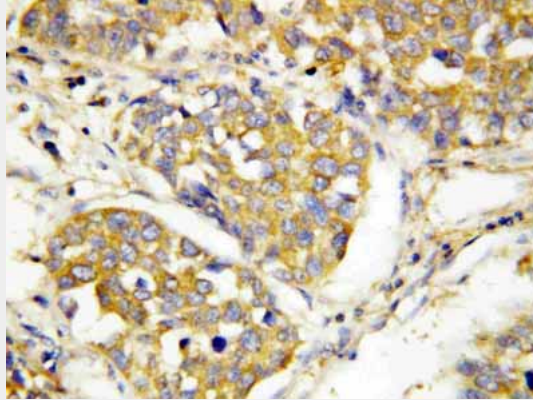
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### Anti-TLR4 Antibody - Images



Anti-TLR4 antibody, ABO10803, Western blotting Lane 1: HELa Cell Lysate Lane 2: SMMC Cell Lysate



Anti-TLR4 antibody, ABO10803, IHC(P)IHC(P): Human Lung Cancer Tissue

### **Anti-TLR4 Antibody - Background**

TLR4, Toll-like receptor 4, is a protein that in humans is encoded by the TLR4 gene. TLR 4 is a toll-like receptor. TLR4, the human homolog of *Drosophila* Toll, is a type I transmembrane protein with an extracellular domain consisting of a leucine-rich repeat region and an intracellular domain homologous to that of human interleukin-1 receptor. The TLR4 gene is mapped to chromosome 9q32-q33 by fluorescence in situ hybridization. It detects lipopolysaccharide from Gram-negative bacteria and is thus important in the activation of the innate immune system. The protein encoded by this gene is a member of the Toll-like receptor (TLR) family, which plays a fundamental role in pathogen recognition and activation of innate immunity. TLRs are highly conserved from *Drosophila* to humans and share structural and functional similarities. They recognize pathogen-associated molecular patterns (PAMPs) that are expressed on infectious agents, and mediate the production of cytokines necessary for the development of effective immunity.